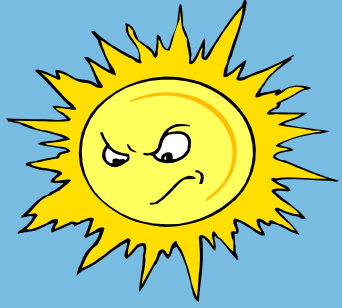
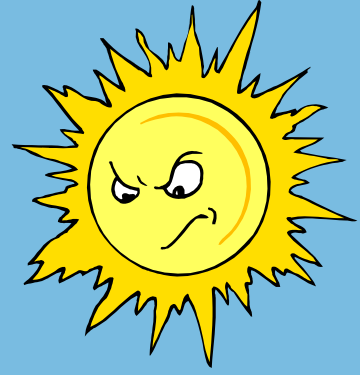
Summer Safety Campaign 2004



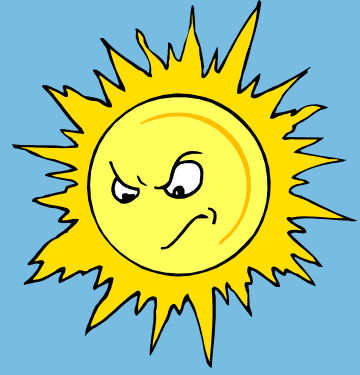
Hot Weather Injury Recognition, Prevention, & Treatment



Rising Temperatures

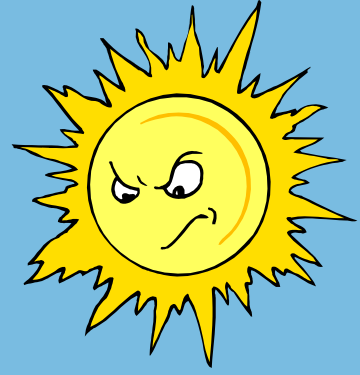
- As temperatures rise, so does the stress on your body.
- Two critical actions can help you battle the heat.
  - Acclimation to the heat.
  - Consumption of water.
- These two actions can help the most.

Your Body is a Good Regulator of Heat



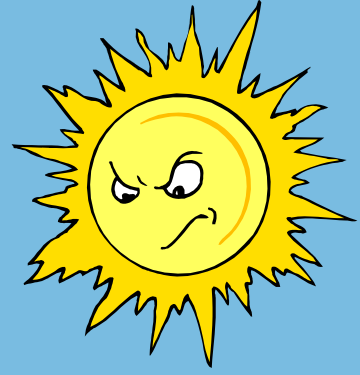
- Your body reacts to heat by circulating blood and raising your skin's temperature. The excess heat is then released through the skin by sweating.
- Physical activity can limit the amount of blood that flows to the skin to release heat.

Your Body is a Good Regulator of Heat



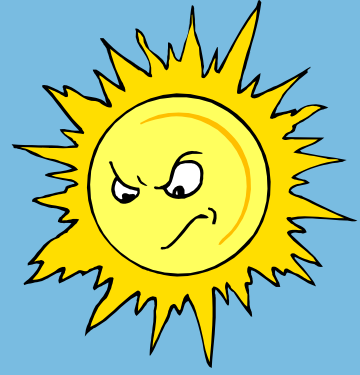
- Sweating can also maintain a stable body temperature if the humidity level is low enough to permit evaporation and if the fluids and salts you lose are adequately replaced.
- When your body cannot release heat, it stores it. This raises your core temperature and heart rate putting your health at risk.

The “Regulator’s” Enemies



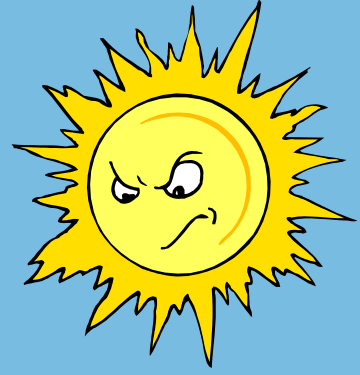
- Many factors can cause unbalances in your body’s ability to handle heat.
  - Age
  - Weight
  - Fitness
  - Medical condition
  - Diet

Summer Heat



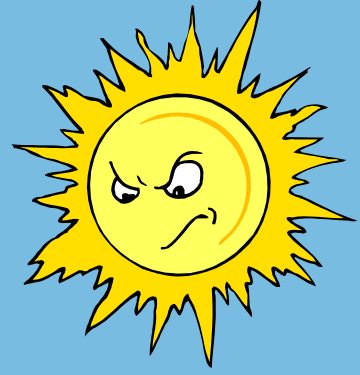
- Heat stress is a serious hazard in the workplace as well as at home.
- Excessive heat can place an abnormal stress on your body.
- When your body temperature rises even a few degrees above normal (which is about 98.6° F) you can…
  - …experience muscle cramps
  - …become weak
  - …become disoriented
  - …become dangerously ill

Factors of Heat Stress



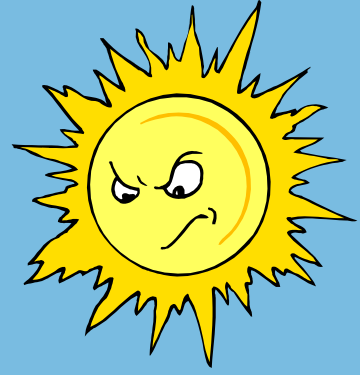
- Temperature
- Humidity
- Movement of Air or lack of air movement
- The radiant temperature of the surroundings
- Clothing
- Physical activity

Heat Stress – Early Sign of Trouble



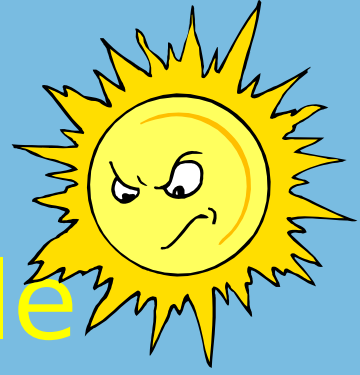
- Heat Stress will reduce your work capacity and efficiency.
- Signs of heat stress include:
  - Tiredness
  - Irritability
  - Inattention
  - Muscular cramps.

Heat Stress – Early Sign of Trouble (cont.)



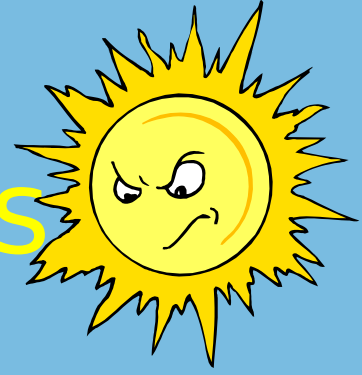
- If you are:
  - Overweight
  - Physically unfit
  - Suffer from heart conditions
  - Drink too much alcohol
  - Are not used summer temperatures
- You may be at greater risk of heat stress and should seek and follow medical advice.

Heat Rash – Another Early Sign of Trouble



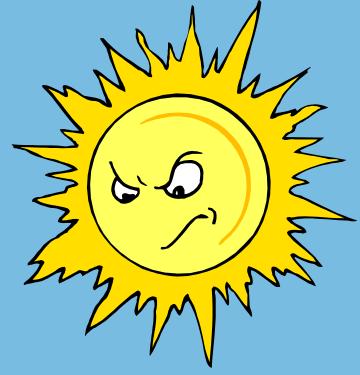
- Also known as prickly heat, occurs when people are constantly exposed to hot and humid air, causing a rash that can substantially reduce the ability to sweat.
- Heat rash is not just a nuisance because of discomfort, but by reducing the ability to sweat, the ability to tolerate heat is reduced.

Heat Rash & Heat Stress

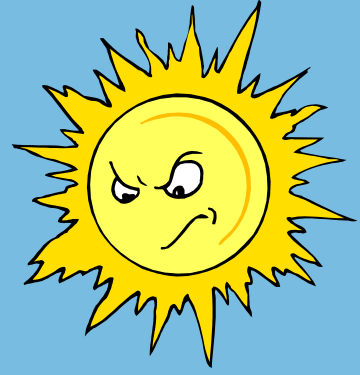


- First Aid for Heat Rash
  - Cleanse the affected area thoroughly and dry completely.
  - Calamine or other soothing lotion may help relieve the discomfort.
- First Aid for Heat Stress
  - Good nutrition
  - Become Heat acclimated
  - Drink lots of fluids

Heat Cramps – Final Warning!!!



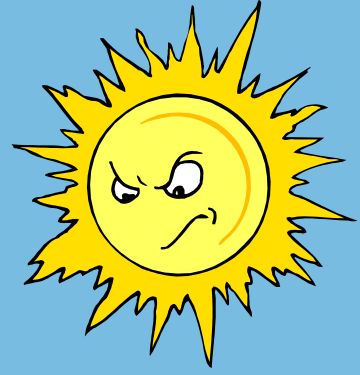
- May occur after prolonged exposure to heat.
- They are the painful intermittent spasms of the abdomen and other voluntary muscles.
- Heat Cramps usually occur after heavy sweating and may begin towards the end of the workday.



Heat Cramps – First Aid

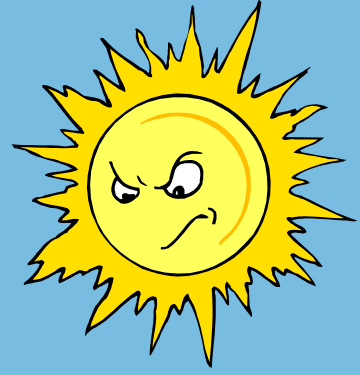
- First aid for heat cramps will vary. The best care is:
  - Rest
  - Move to a cool environment
  - Drink plenty of water- No pop, sparkling water, or Alcohol.
  - Electrolyte fluids such as Gatorade or Sqwincher may also be used.

Heat Exhaustion – Time Running Out



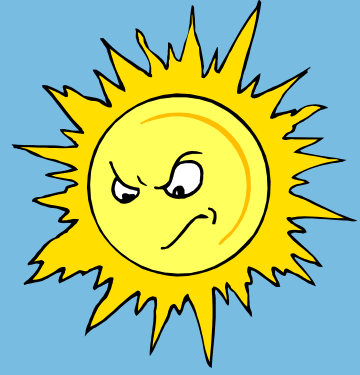
- May result from physical exertion in hot environments.
- Symptoms may include:
  - Profuse sweating
  - Weakness
  - Paleness of the skin
  - Rapid pulse
  - Dizziness / Nausea
  - Headache
  - Vomiting
  - Unconsciousness
- The skin is cool and clammy with sweat. Body temperature may be normal or subnormal.

Heat Exhaustion – What Happened



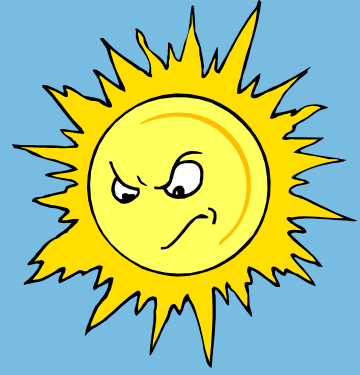
- Heat exhaustion develops when a person fails to replace fluids and salt that are lost through sweating.
- You may start to experience extreme weakness, fatigue, giddiness, nausea or a headache as heat exhaustion progresses.

Heat Exhaustion – First Aid



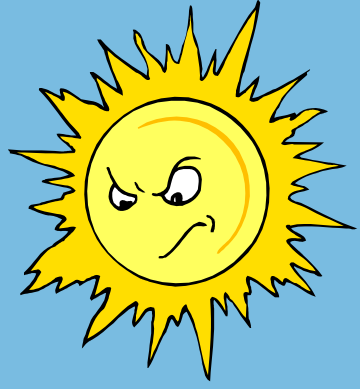
- Rest in the shade or cool place.
- Drink plenty of water (preferred) or electrolyte fluids.
- Loosen clothing to allow for your body to cool.
- Use cool wet rags to aid cooling.

Heat Stroke – You're Out of Time



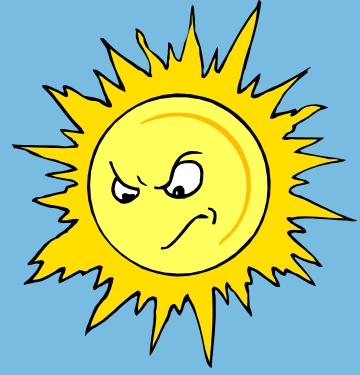
- This is a serious medical condition that urgently requires medical attention.
- Sweating is diminished or absent, which makes the skin hot and dry.
- Body temperature is very high (105° F and rising).

Heat Stroke – Signs and Symptoms



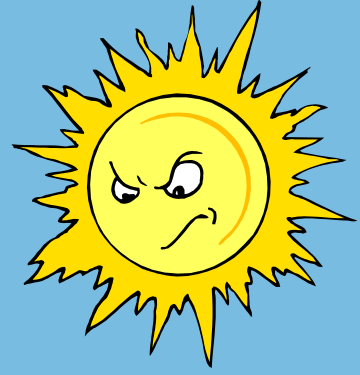
- Mental confusion
- Delirium
- Chills
- Dizziness
- Loss of consciousness
- Convulsions or coma
- A body temperature of 105° F or higher
- Hot, dry skin that may be red, mottled or bluish
- A strong fast pulse.

Heat Stroke – **Rapid Response**



- If you suspect someone is suffering from heat stroke, call an ambulance immediately.
- Their condition will rapidly deteriorate.
- You must provide care immediately.

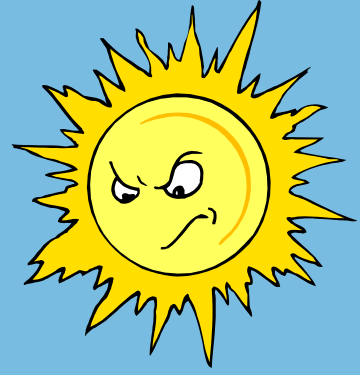
Heat Stroke – First Aid



- **This is a Medical Emergency!!**
- Brain damage and death are possible.
- Until medical help arrives, move the victim from the heat and into a cool place.

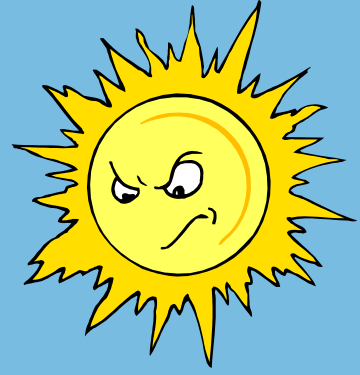
Get Medical Help!!!

Heat Stroke – First Aid

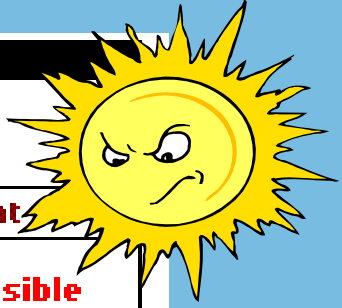


- You must use extreme caution when soaking clothing or applying water to a victim. Shock may occur if done to quickly or with too cool of water.
- Soak his or her clothes with water and use a fan or ice packs.
- Douse the body continuously with a cool liquid and summon medical aid immediately.

The Heat Index



- The heat index table was developed by the Weather Service.



General Heat Stress Index

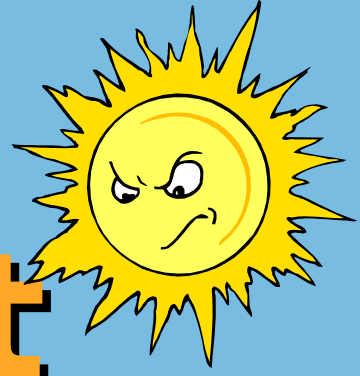
Danger Category	Apparent Temperature (°F) (Humiture)	Heat Syndrome
IV. Extreme Danger	>130°	Heatstroke or sunstroke imminent
III. Danger	105° – 130°	Sunstroke, heat cramps, or heat exhaustion likely. Heatstroke possible with prolonged exposure and physical activity.
II. Extreme Caution	90° – 105°	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity.
I. Caution	80° - 90°	Fatigue possible with prolonged exposure and physical activity.

Note: Degree of heat stress may vary with age, health, and body characteristics.

		Relative Humidity								
		10%	20%	30%	40%	50%	60%	70%	80%	90%
TEMPERATURE °F	104	98	104	110	120	>130	>130	>130	>130	>130
	102	97	101	108	117	125	>130	>130	>130	>130
	100	95	99	105	110	120	>130	>130	>130	>130
	98	93	97	101	106	110	125	>130	>130	>130
	96	91	95	98	104	108	120	128	>130	>130
	94	89	93	95	100	105	111	122	128	>130
	92	87	90	92	96	100	106	115	122	128
	90	85	88	90	92	96	100	106	114	122
	88	82	86	87	89	93	95	100	106	115
	86	80	84	85	87	90	92	96	100	109
	84	78	81	83	85	86	89	91	95	99
	82	77	79	80	81	84	86	89	91	95
	80	75	77	78	79	81	83	85	86	89
	78	72	75	77	78	79	80	81	83	85
	76	70	72	75	76	77	77	77	78	79
	74	68	70	73	74	75	75	75	76	77

NOTE: When the air temperature is above 80 degrees F. and the relative humidity is above 40% the temperature the body experiences is greater than the air temperature.

Questions?



Have a Great Summer!

Prevent Hot Weather Injuries – or Recognize & Treat Them Properly!!